C-4

Lower Elwha Klallam Tribe

Lower Elwha Fisheries Office

760 Stratton Road
Port Angeles, WA 98363
360.565.7270

To: US EPA
Region 10, OWW-191
Washington Hatchery Annual Report
1200 Sixth Avenue
Suite 900
Seattle, WA 98101-3140

From: John Mahan
Date: 1-17-2018
Subject: Lower Elwha Fish Hatchery Annual Report

Please find enclosed the 2017 Annual Report for the Lower Elwha Fish Hatchery. (WAG-13-0023)

Please contact me if you have any questions regarding this report.

ICIS 1/26/18 JM

Annual Report of Operations for Year 2017

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
WAG - 130023

Facility & Owner Information

Facility Name: House of Salmon	
Operator Name (Permittee): Lower Elwha Klallam Tribe	
Address: 700 Stratton Road Port Angeles WA 98363	
Email: john.mahan@elwha.org	Phone: 360-565-7270
Owner Name (if different from operator):	
Email:	Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

No Changes

EPA General Permit WAG130000 - Annual Report

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 28,520 lbs

Pounds of food fed to fish during the maximum month:
6138.38 lbs December

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Chum	193 lbs	Elwha River	April
Steelhead	26,355 lbs	Elwha River	April
Coho	1,972 lbs	Elwha River	March

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	20424.16	2811.30	July	8155.02	2183.75
February	22968.83	3029.58	August	10997.51	2006.26
March	29074.04	4768.02	September	12962.48	2245.06
April	32333.47	2968.66	October	17069.86	3293.95
May	4731.89	1056.89	November	23162.33	3989.86
June	6913.32	1260.81	December	29876.15	6138.38

Additional Comments:

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
Fish	April 17, 2017	Upland burial pit

Additional Comments:

Routine fish mortalities were disposed of daily in municipal waste.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
April 17, 2017	Intentional Culling, Asphyxiation	Reduced Eggtake	1960.2 lbs

Additional Comments:

No unintended mass mortalities occurred. Culling was due to rearing more fish than permitted.

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

November and Decembers monthly DMR samples exceeded permitted values for effluent net suspended solids.

These samples were taken during high water events and the resulting non-compliance events were the result of high fluctuations in surface water turbidity throughout the sampling period and difficulty in obtaining effluent samples without the incidental inclusion of turbid river water. They were not the result of suspended solids entering the effluent as a result of hatchery operations.

Effluent net suspended solid samples are generally non detectable or well below permitted values.

More care will be taken during sampling to ensure no turbid river water is incidentally included in the effluent sample.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily		The facility is inspected daily

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ☐ No	Azithromycin no
☐ Yes ☒ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Chlorine
☐ Yes ☒ No	Draxxin
☐ Yes ☒ No	Erythromycin - injectable
☐ Yes ☒ No	Erythromycin - medicated feed
☒ Yes ☐ No	Florfenicol (Aquaflor)
☐ Yes ☒ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Herbicide - describe:
☐ Yes ☒ No	Hormone - describe:
☐ Yes ☒ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
☒ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☒ Yes ☐ No	Oxytetracycline
☐ Yes ☒ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Romet
☐ Yes ☒ No	SLICE (emamectin benzoate)
☐ Yes ☒ No	Sodium Chloride - salt
☐ Yes ☒ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Aquaflor (Florfenicol)		Generic Name:	
Reason for use: Treatment for Coldwater Disease			
☐ Preventative/Prophylactic ☑ As-needed	Total quantity of formulated product per treatment (specify units): 347.84 lbs feed	Total quantity of formulated product used in past year (specify units): 347.84 lbs feed	
Date(s) of treatment: 6-27-17 thru 7-6-17			Total number of treatments in past year: 1
Maximum daily volume of treated water: NA	Treatment concentration (specify units): 1362.0 g-/ton	Duration and frequency of treatment(s): 10 days	
Method of application:	☐ Static Bath ☐ Flow-through	☑ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☑ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe): NA
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Terramycin (oxytetracycline)		Generic Name:	
Reason for use: Cold water Disease			
☐ Preventative/Prophylactic ☑ As-needed	Total quantity of formulated product per treatment (specify units): 125.2 lbs	Total quantity of formulated product used in past year (specify units): 125.2 lbs	
Date(s) of treatment: 1-31-17 thru 2-9-17			Total number of treatments in past year: 1
Maximum daily volume of treated water: NA	Treatment concentration (specify units): 3.75 g/ton	Duration and frequency of treatment(s): fed daily for 10 days	
Method of application:	☐ Static Bath ☐ Flow-through	☑ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☑ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe): NA
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units):	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name: Ovadine (iodophor)		Generic Name:	
Reason for use: egg disinfection			
■ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment: 75 ml	Total quantity of formulated product used in past year (specify units): 3.90 gallons	
Date(s) of treatment: See ovadine treatment dates attached			Total number of treatments in past year: 21
Maximum daily volume of treated water: 122 gallons	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 1 hour once	
Method of application:	■ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments Iodine	
Tank Volume	137.8 Liters
Desired Static Bath Treatment Concentration	75 ppm µg/L
Volume of Product Needed	1.05 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: .031 ppm Active Ingredient: .0031 ppm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	19,281,600 gallons Specify Units
Maximum % of Facility Discharge Treated	.045 % of Total Discharge

Flow-Through Treatments	
Tank Volume	Liters
Calculated Flow Rate	Liters/Minute
Duration of Treatment	Minutes
Desired Flow-Through Treatment Concentration of Product	µg/L
Amount of Product to Add Initially	Liters Product
Amount of Product to Add During Treatment	mL/Minute
Total Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
Three wells were rehabilitated Formalin was not used Temperature Monitoring was initiated

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John Mahon	Hatchery Manager
Printed name of person signing	Title
	1-17-18
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140

2017 iodophor max concentration

	Number Spawn Days	Number of Incs Green Eggs	
Steelhead	11	19	
Coho	6	167	
Chum	4	11	3.785
Total	21	197	

ml iodophore/inc 75

total iodophor 14775 ml
14.775 L
3.903567 gallons

Max discharge	ml iodophor/inc	#incs discharging at once	
	75	14	1050 ml

890,785.72000000 gallons in the system
0.27741083 gallons iodophore

1 to 3,211,070.42876190
ppm 0.31142263

10 % iodine 0.03114226 max concentration iodine ppm

Maximum % of discharge treated
6 gpm treated incubation water
13,390 gpm facility flow
0.044809559 Maximum % of discharge treated

inc volume 2.6 gallons
36.4 gallons/ treatment
137.774 Liters/treatment

Iodophor use dates

4/25/2017
5/1/2017
5/3/2017
5/9/2017
5/11/2017
5/12/2017
5/16/2017
5/23/2017
5/25/2017
5/30/2017
6/5/2017
11/1/2017
11/1/2017
11/6/2017
11/8/2017
11/14/2017
11/15/2017
11/17/2017
11/21/2017
11/29/2018
12/6/2018